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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/045,316	11/07/2001	Hiroki Nakamaru	1321-01	7966

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IP Department
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EXAMINER
KUHAR, ANTHONY J

ART UNIT	PAPER NUMBER
1754	4

DATE MAILED: 02/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/045,316	NAKAMARU ET AL.	
	Examiner	Art Unit	
	Anthony J Kuhar	1754	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

4a) Of the above claim(s) *10-12* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *1-12* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☒ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-9, drawn to a process for remediating halogenated hydrocarbons, classified in class 588, subclass 207.

II. Claims 10-12, drawn to an iron powder, classified in class 75, subclass 433.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the iron powder product can be used in another process, such as a component for sintering or injection molding. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

During a telephone conversation with Daniel T. Christenbury on October 29, 2002 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-9. Affirmation of this election must be made by applicant in replying to this Office action. Claims 10-12 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, "selected media" is indefinite as to what is selected.

In claim 7, an improper markush grouping is cited. Examiner recommends –selected from the group consisting of- rather than "elected from the group consisting of".

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wolfe '882.

In column 3, lines 36-55, Wolfe '882 teaches remediating soil, water, and sediment with metallic iron containing sulfur. Column 6, line 49 teaches the sulfur may be present in the amount of 0.1 to 25%. The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to select the portion of the prior art's range which is within the range of applicant's claims because it has been held to be obvious to select a value in a known range by optimization for the best results, see In re Boesch, 205 USPQ 215. Halogenated hydrocarbons suitable for remediation with the iron powder are taught in column 8, lines 5-24. It also appears in column 6, lines 52-58 that precipitates of sulfur are formed on the iron and they are Fe-S based compounds.

Column 11, line 2 teaches an iron powder content of 3.7% by weight of the material to be treated. Since the iron is added to an aqueous solution in the examples, it appears it would be wet with one or more layers of water molecules. Column 6, line 34 teaches the iron powder contains manganese but does not disclose the wt% of manganese. At the time the invention was

made it would have been obvious for one of ordinary skill in the art to choose an iron powder with an optimum percent manganese in view of lack of unexpected results because it is not inventive to determine the optimum or workable range which only requires routine experimentation, see In re Boesch, 205 USPQ 215.

Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2000-080401

JP 2000-080401 teaches an iron powder containing S in the amount of 0.02 to 0.5% by weight for removing detrimental objects such as P and organochlorine compounds in wastewater (see paragraphs 2, 4 and 8). The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to select the portion of the prior art's range for sulfur which is within the range of applicant's claims because it has been held to be obvious to select a value in a known range by optimization for the best results, see In re Boesch, 205 USPQ 215. Paragraph 17 discloses an Mn concentraton less than 0.2 wt %. JP 2000-080401 does not teach the % weight of the iron powder to use with the media to be treated; however, it would have been obvious to one of ordinary skill in the art at the time the invention was made to determine the wt% of iron powder to use in view of lack of unexpected results because it is not inventive to determine the optimum or workable range which only requires routine experimentation, see In re Boesch, 205 USPQ 215. Paragraph 12 teaches the water atomization of the iron powder, in which can the iron powder would appear to have water molecules surrounding the iron particles. The iron particles are mixed with the contaminated materials in the examples. JP 2000-080401 does not disclose that precipitates of sulfur on the

iron powder are formed. However, since the same process for remediating halogenated hydrocarbons is recited using the instantly claimed sulfur containing iron compounds, it appears precipitates of sulfur are indeed present or would be formed. Where the claimed and prior art product(s) are identical or substantially identical, or are produced by identical or substantially identical process(es) the burden of proof is on applicant to establish that the prior art product(s) do not necessarily or inherently possess the characteristics of the instantly claimed product(s), see In re Best, 195 USPQ 430.

Claims 1 and 3-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sivavec '927.

Column 2, lines 61-65 teach treating aqueous compositions containing halogenated hydrocarbons with a mixture of iron and ferrous sulfide. Column 3, lines 47-48 teach one to thirty percent iron sulfide, which would meet applicant's claims pertaining to sulfur content. The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have selected the overlapping portion of the range disclosed by the reference because overlapping ranges have been held to be a prima facie case of obviousness, in re Malagari, 182 USPQ 549. Trichloroethylene and dichloroethylene are taught as chlorinated solvents in column 4, line 22. Since the iron is added to an aqueous solution in the examples, it appears it would be wet with one or more layers of water molecules. It also appears that the recited iron sulfide is a precipitate of sulfur and is an Fe-S based compound. Sivavec '927 does not teach the % weight of the iron powder to use with the media to be treated; however, it would have been obvious to one of ordinary skill in the art at the time the invention was made to

determine the wt% of iron powder to use in view of lack of unexpected results because it is not inventive to determine the optimum or workable range which only requires routine experimentation, see In re Boesch, 205 USPQ 215.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony J Kuhar whose telephone number is 703-305-7095. The examiner can normally be reached on 8:45 am - 5:15 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stan Silverman can be reached on 703-308-3837. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-305-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

AK
February 10, 2003

STEVEN BOS
PRIMARY EXAMINER
GROUP 1100